

## Reducing poverty through participatory action learning and action research processes with smallholder vegetable farmers in Mindanao

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### Introduction

Smallholder vegetable farmers in the vegetable bowl of the Philippines – Mindanao – are faced with opportunities and threats arising from the changing nature of their markets. This comes from two main sources, the increasing market share of supermarkets and competition from imported product arising from the entry of the Philippines into the World Trade Organisation. Unfortunately, smallholder farmers have difficulty accessing the higher value supermarket and other institutional market chains because, amongst other things, their small size means they can't deliver the volume of consistent quality product required by these value chains. A smallholder vegetable farmer in Mindanao has a farm of between one and two hectares (although only about two thirds own their farms). On average, they earn less than A\$2,000 per year from their farming operations and have about eight years of primary school education. While their soils are generally fertile and rainfall is plentiful, their key constraints are poor infrastructure (particularly roads), losses due to excessive rain, lack of access to finance, fluctuating prices and limited access to and knowledge of alternative markets, and limited access to physical and information inputs for producing vegetables.

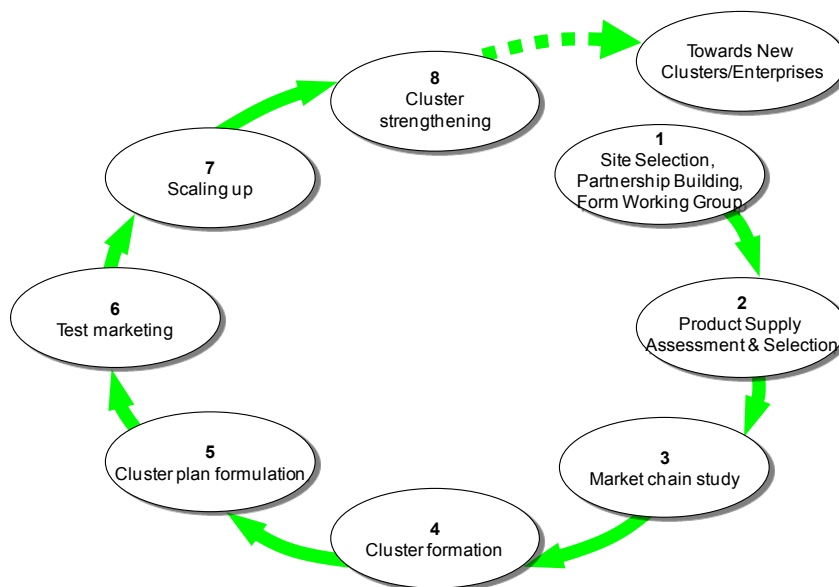
The University of the Philippines Mindanao's School of Management, its Upstream Foundation and Curtin University have been involved in an ACIAR funded project which has been investigating a process to overcome these constraints by organising smallholder farmers into small groups of collaborating farmers, or clusters, and taking them through a capacity-building process so that they can expand their market opportunities and improve their income. This participatory process known as the 'Clustering approach for agroenterprise development' (CRS-Philippines 2007) was developed and used by the Catholic Relief Services. It is based on process developed by the Centre for International Tropical Agriculture (CIAT 2001). It involves taking small groups of farmers through an eight-step process from initial group formation to test marketing, scaling up and strengthening.

The CRS Clustering Approach to Agroenterprise Development (CRS-Philippines 2007) involves facilitating the development of farmer marketing groups or clusters using an eight-step process which is outlined in Figure 1. Step 1 involves identifying the project site, building partnerships with farmers and other stakeholders such as local businesses, local government and NGOs, forming a working group and providing a project and cluster orientation to interested farmers. Step 2 involves farmers in identifying the community's resources, products, production practices and marketing alternatives. The farmers then decide on the product or products that will be the focus of the cluster group based on the availability of markets and their ability to finance and produce the products. Step 3 involves the farmers undertaking a market chain study. Farmers are trained in conducting a market chain study and conduct market visits in which they develop understanding of the chains for their selected products. They then select the best chains to work on and conduct initial negotiations with potential buyers.

In Step 4 interested farmers form the cluster, select leaders and agree on a basic cluster agreement and objectives. Step 5, or cluster plan formulation, involves developing a plan for the cluster to grow and harvest the selected vegetables and deciding on the test marketing plan, which consolidates market, supply, management and financial plans. In Step 6, the test marketing activities involve assessing the performance of the trial deliveries and making adjustments and improvements. At least four trial deliveries are involved. If the test marketing activities are judged successful, Step 7 involves planning and conducting a scaling up process which involves expanding operations either through producing and marketing more or new products or performing more market chain activities. Readiness for scaling up is assessed with criteria that appraise cluster willingness, level of product supply, market performance,

management performance and financial trends for the cluster. The final step of cluster strengthening involves undertaking capacity building activities that expand cluster capacity and networks with other clusters and businesses to improve cluster maturity. See 'The Clustering Approach to Agroenterprise Development for Small Farmers: The CRS-Philippines Experience' (CRS-Philippines, 2007) for further information.

**Figure 1. Steps in clustering approach to agroenterprise development**



This paper discusses our experiences with implementing this process including successes, failures, lessons learnt and opportunities to improve the process. Some successes have included increased income from better marketing and product quality and increased capacity of farmers to investigate, negotiate and deliver to institutional markets. Failures have arisen from production issues, financing problems, problems with group cohesion and failure of buyers to pay for product.

### What has been done

Since 2008, three staff from the Upstream Foundation have facilitated the development of 29 clusters involving around 350 participants, with 220 males and 130 females. The clusters are in three provinces of Mindanao (Bukidnon, South Cotabato and Davao City) and are generally in villages with poor or no road access, limited electricity and poor communications with the outside world, although some mobile phone coverage is available for some locations. These farmers and their clusters have been taken through the stages of the 'Clustering Approach' and have reached various stages of maturity. At the same time, researchers from UPM and Curtin have been investigating the 'Clustering Approach' using an integrated Participative Action Learning and Action Research Process. These researchers work alongside the field staff and document group activities, survey farm household resources, production activities, levels of social capital and other factors in the cluster and the relationship between farmers, clusters, traders, wholesale traders and institutional markets. They also investigate issues as they arise, such as problems with and solutions to the financing issue and changes and improvements to the clustering process. Case studies are developed for each cluster and stories of selected farmers within the clusters are prepared. Information from these investigations; experiences of the researchers, field officers and farmers; evidence from the literature; and discussions between the researchers and field officers are combined to identify and evaluate changes to the clustering activities and processes.

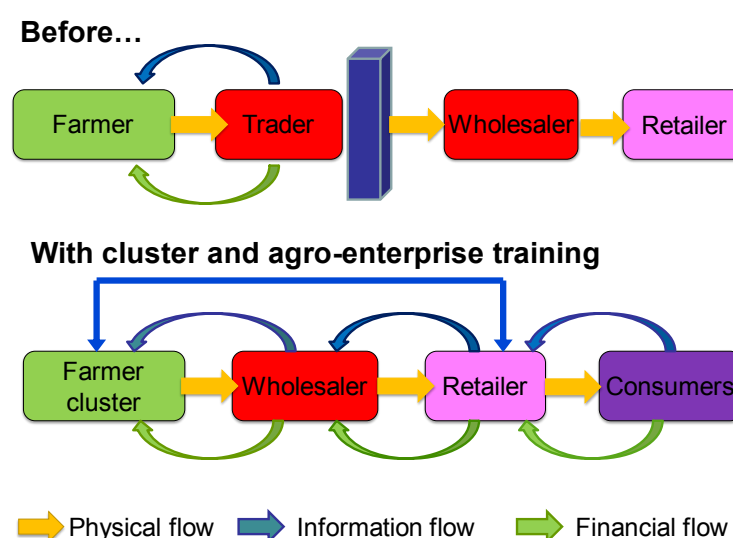
A key part of the clustering process is to build human and social capital of the farmers and clusters so that they will be more resilient and able to compete in the increasingly globalised environment. Therefore, apart from the learnings inherent in the facilitated clustering activities, a range of training activities are conducted. In the 2010-11 year, 46 training activities were conducted by the team for the clusters, in which 940 people were involved in 14 types of capacity building activities.

### Features of the clusters

The clusters are area based, with members normally from the same village or location. Most are small (less than 15 members) as part of a strategy to minimise conflict and enhance group cohesion. They normally have a formal chairperson and one or more marketing officers. Some of the clusters market a single vegetable such as capsicum, while others market a range of vegetables. Vegetables produced by the clusters include: bitter gourd, cabbage, capsicum, choko, eggplant, okra, onion, potato, squash and tomato. Between August 2008 and June 2011, the clusters have collectively marketed 291 tonnes of vegetables, worth PhP6.5 million (A\$150 thousand). Most of this production has been in the last year as the clusters became operational and began to expand their activities.

Before clustering, farmer members had little knowledge of their market beyond the intermediary to whom they sold their vegetables. This information barrier (Figure 2) meant they were price takers who sold an undifferentiated product for cash at the price offered by the local trader. An example of this is farmers from the Ned area of South Cotabato who previously produced and sold capsicums to local traders. While they produced and sold red and green capsicums they sold them unsorted and hence did not take advantage of the higher prices available from consolidators and institutional markets.

**Figure 2. Representation of information and financial flows between farmers and their markets before and after joining a cluster**



Joining a cluster enables farmers to break through this information barrier (Figure 2) and farmer members of clusters now have much improved understanding and information flows to and from their key markets. Apart from selling to their traditional trader, farmers are now selling through their cluster to wholesalers, consolidators and institutional markets such as supermarkets. One group has even set up its own store in the local market. The cluster farmers from Ned now sell to a number of customers, but also sort their product and obtain premium prices for red capsicums. A couple of groups are negotiating with supermarkets and delivering their product direct to their stores in the city.

### Problems faced by clusters

Smallholder vegetable farmers in Mindanao face many difficulties when attempting to supply institutional markets in addition to their traditional markets. Collaborating to market their vegetables helps them overcome some of these issues. However, they still face many constraints.

#### *Poor logistics infrastructure*

Perhaps the most important problem smallholder farmers have in competing with imported product and large-scale domestic and international companies is the logistics associated with moving their product from their farms to market. Most smallholder farmers have farms on sloping to steep land located kilometres from sealed roads. Consequently, they often have to transport their product from their farms to the nearest all weather road by foot, horse and motorbike. Therefore, it is very difficult to package their product so that it is protected from damage in its journey to the market.

In addition, after reaching the road, they are forced to transport their product by 'jeepney', which are small, less than 1 tonne capacity vehicles, that are normally used to transport passengers. In some cases even this form of transport is problematic, with the jeepney going to the city markets on only 2 or 3 days per week, with unreliable frequency and timing. Another issue is that costs of transport at most stages from farm to market are charged by the sack rather than by weight. This includes the cost of loading and unloading, the cost of transport and taxes on the way to market. Not surprisingly, farmers pack as much as possible into a plastic sack to the extent that vegetables bulge out the top and are held in by cord. Consequently, losses due to damage are substantial and vegetable traders and buyers build these losses into their prices.

In combination, these logistical constraints mean there is little price incentive in the traditional market for farmers to reduce postharvest losses by improving packaging. The extra costs of improved packaging can only be justified if the customer is willing to pay a higher price per kilogram in order to obtain a better quality product with lower amounts of damage and losses. Some clusters have been able to access institutional markets that pay a premium product for vegetables packaged in crates rather than sacks, but others have not been able to access these markets, in part because of their unreliable transport.

### ***Lack of access to finance***

Largely because of their low income and asset base, but also because of their remote locations, most smallholder farmers do not have access to the formal finance sector for working or investment capital. Consequently, when supplying their traditional markets farmers obtain finance from the non-formal sector, often the village trader or consolidator. While this allows them to access credit, the costs of this can be substantial, both directly through high interest rates and indirectly because they are then linked to these buyers to sell their product and therefore receive lower prices than might be possible without these constraints. If farmers are to access alternative markets they need access to other sources of finance. In some cases this has been solved by linking farmers to a local microfinance cooperative, but this can be problematic because of the financial requirements to joining these cooperatives and the penalties if farmers are not able to repay.

### ***Fluctuating prices***

Vegetable farmers in the Philippines also receive highly variable prices for their product due to local supply and demand variations and national climatic effects often due to typhoons and heavy rainfall events. For example, for one farmer in Bukidnon the price received for squash varied from PhP1 to PhP18 per kilogram over a two month harvest period. For another farmer, the price received for eggplant varied from PhP5 to PhP15 per kilogram.

### ***Variable production due to seasonal conditions and disease outbreaks***

While Mindanao farmers are relatively lucky when compared with other Filipino farmers in that they do not have typhoons, they still are subject to torrential rains and dry periods. In addition, the climatic conditions can amplify disease outbreaks. In combination these factors can cause crop failures, with clusters being unable to meet their delivery commitments to their institutional markets. Apart from the loss of income and loss of markets, farmers may also be unable to meet payments on their loans from either the informal or formal sector, which can have unfortunate consequences particularly with loans from the formal sector.

### ***Maintaining buyer-cluster relationships***

Maintaining buyer-cluster relationships has proved problematic in some instances. This occurs when farmers do not meet their supply or quality commitments, but can also occur due to problems at the buyer end. Some institutional buyers have limited understanding of the issues faced by farmers and make unrealistic demands, while others do not pay cash, or in extreme cases have had their cheques bounce. Since most farmers don't have access to the formal lending sector, prompt cash payment is a higher priority for them.

### ***Cluster and farmer innovations arising from clustering process***

The action learning undertaken as a result of the clustering process has empowered farmers and provided them with the knowledge and skills to adopt a range of innovations (Concepcion et al. 2011) in addition to adopting clustering as a method to market their vegetables.

### ***Developed new products for new markets***

Initially the farmers are encouraged to produce and market products with which they are familiar. This is to reduce the risks associated with producing and marketing as a group. However, once they develop confidence they then begin to try new alternatives. For instance in

Bukidnon, a cluster began to supply a food processor with capsicums. For them this was a new market, but another cluster that had not previously grown capsicum, also began to grow them to supply the food processor. In South Cotabato, two clusters who were supplying a food processor began to grow the particular variety that suited the processor's specifications whereas previously they had just grown whatever variety was available. Similarly a group of farmers from Saloy began growing and supplying a range of vegetables to a supermarket. This involved a range of innovations, from production planning, to harvest coordination, sorting vegetables to meet quality specifications, repackaging, negotiating with the buyer and so on.

### ***Improved postharvest practices***

A key feature of clustering is the emphasis it places on delivering a product to a customer that meets their specifications. In order to achieve this cluster farmers have begun grading their vegetables and improving product handling. Grading has enabled farmers to sell the high quality vegetables for higher prices, which provides an incentive for them to produce high quality product. Postharvest losses were also high because of poor harvest, packaging and transportation practices. Where this is possible farmers have begun using cartons and separating their vegetables from other parts of the load so that damage is reduced. They are also much more careful when packing, loading and unloading their vegetables.

### ***Improved access to low-cost community-based loans***

Prior to becoming members of clusters, many farmers relied on traders to finance their production inputs because they lacked access to formal lending institutions. However, some clusters have teamed up with microfinance banks and are now able to obtain small loans for working and other capital requirements. In some cases this also provides them with a means to save money, something that was not previously available to them. Another innovation is that cluster finances are used to make loans to farmers, often for seed, which are paid back after harvest.

### ***Improved access to local and national government grants***

Partly because they are organised as a group and also because they have registered their clusters formally with the government, cluster members have gained access to financial, material and training support from local and national government agencies and other NGOs.

### ***What we have learn from our investigations***

Our investigations have investigated the outcomes from the clustering process as well areas for improvement. In the past year (2010-2011), the average income of cluster farmers has increased by an average of 65%, although as might be expected, there is a considerable variance between clusters with some more than tripling their income, while one group has had a slight decline in income. The latter was due to crop failure arising from poor climatic conditions.

### ***Cluster marketing can be empowering***

Even if not all clusters survive after the project and after assistance has been withdrawn, the farmers have been able to organise themselves using their own resources to obtain better markets for their products. Now, when one market has problems, they immediately go out and investigate new markets, without the assistance, advice or prompting of the project team. Previously, farmers lacked confidence to contact and negotiate with large traders and institutional buyers. This barrier has been broken down for many groups. This new found confidence in their own abilities is something that will stay with them as individuals and through its effects on social capital will enhance their ability to organise with others in the future.

### ***Market and agribusiness systems focus***

We have learnt that a market and agribusiness systems focus is critical to achieving meaningful advances to reduce poverty for smallholder farmers. Extension and research projects that are narrowly focussed, or focussed on production innovations without considering the market for the products being produced, will be less likely to lead to real improvements in income and to their long-term adoption. Many innovations will only be adopted when farmers are able to pay for them and this often only occurs for particular markets. This is especially true of innovations in post-harvest packaging and transport. However, it is also true of production innovations that need financing for inputs, which will only occur when farmers develop the confidence that they will be able to meet the repayment obligations arising from their purchase of these inputs.

### ***Cluster success factors***

Success in clustering will only occur when the farmers obtain a comparative advantage from clustering. This is mostly a better price, but it can also be increased volume or lower finance

costs. The groups that are most successful are those where certain levels of social capital exist and where leadership is effective and the actions of the clusters leads to improvements in this social capital. However, the process we have been using has some weaknesses and we are addressing these (see Murray-Prior et al. 2011) for a discussion of this issue.

### Conclusions

Involvement in a facilitated cluster marketing process has resulted in substantial benefits for smallholder vegetable farmers in Mindanao. This type of process can also be used as a mechanism to facilitate adoption of a range of innovations that enable the farmers to make more money. In fact it can be argued that many of the innovations and improvements would not be possible without this integrated change process with its focus on the whole supply chain and the agribusiness system. When research, development and extension are integrated using such a process, the speed of change is greater and cluster farmers are able to meet institutional market demands. However, it is not easy and the difficulty of scaling up and scaling out still exists.

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